Notes from the 11/11/04 Tevatron BPM Upgrade Meeting
Stephen Wolbers

Gustavo Cancelo/Eric James -- Envelope Filter Update:

- Gustavo and Eric's slides will be found in AD doc #1414.

- Gustavo showed results of implementing the envelope filter on the teststand using Jim Steimel's input signals. These signals are meant to mimic the beam and in this case 1-12 bunches per batch are being used.

- Gustavo showed the results of loading the filter into the Echotek and showed the intensities and the position average as a function of the number of bunches using various averaging schemes. (See slides for the results.)

- Next, with the help of Ted Zmuda, they modified the FPGA to implement logic that would only keep the data that exceeded a threshold. This is the first step in a program that investigates the possibilities of programming the FPGA.

- With the FPGA changes some results were shown that indicate that the changes function. Further data analysis and measurements are needed to verify that the system is working as anticipated.

- There was some discussion of the FPGA code, how to validate the functionality of the recompiled source code, the overall program of work, etc. But in general this looks like an extremely fruitful approach.

Jim Steimel - Timing Discussion:

- Jim's transparencies can be found in AD doc #1446.

- Jim showed a professional diagram of the accelerator that showed the beam injection location, how the TVBS is distributed around the ring, and how the system can be timed to allow all houses/BPMs to read out the same beam in a first turn and a turn by turn measurement.

- One subtle issue of what the "first" BPM is in a first turn measurement. Mike Martens states that it is the 2 BPM's at the downstream end of the Lambertsons. These will not see any signal the first turn but they should be reported as the first two BPMs in the first turn measurement. The first BPM with real beam will be the F11 BPM(s).